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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

ARTMAN, THOMAS R

ART UNIT	PAPER NUMBER
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2882

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/804,605

Applicant(s)

HERER ET AL.

Examiner

Thomas R. Artman

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-23 and 31 is/are rejected.
- 7) ☒ Claim(s) 10 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 07 September 2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement (IDS) submitted on September 7th, 2004, is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner. Please see the attached PTO-1449 with the examiner's initials, signature and date considered.

Claim Objections

Claims 14 and 26 are objected to because the term "tons" in line 3 of claim 14 and line 3 of claim 26 does not make sense. Furthermore, the phrase "such as tons or cylindrical baskets" in lines 2-3 of claim 14 and lines 3-4 of claim 26 provides a non-limiting list of specific examples which is improper and should be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2882

Claims 1-6, 9, 15-20, 23, 25, and 27-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Jongen (US 6,777,692 B2).

Regarding claim 1, Jongen discloses a process for irradiating products by means of a high energy X-ray beam source 18,14 in an installation having an irradiation chamber (Figs.4 and 5), including:

- a) determining the density of the products to be irradiated (col.2, lines 47-48),
- b) determining, on the basis of the density, the optimal size of the product stack able to optimize the throughput and/or dose uniformity ratio (col.2, lines 49-54),
- c) loading the products as a stack of optimal size onto rotation means 15 located in front of the X-ray source (col.4, lines 9-27), and
- d) while rotating the rotation means around a rotation axis, irradiating the products from a lateral side of the product stack without using a collimator (col.4, lines 48-56).

Regarding claim 16, Jongen discloses an apparatus for irradiating products (Figs.4 and 5), including:

- a) a high energy X-ray source 18,14 for irradiating the products 1 from a lateral side with a beam directed along a first direction substantially perpendicular to the lateral side and scanned along a second direction substantially perpendicular to the first direction (col.4, lines 47-50),
- b) an irradiation chamber (Fig.5) where irradiation of the products can be performed, where the chamber has a rotation means 15 for rotating the products around a rotation axis parallel to the second direction (col.4, lines 51-55), where

c) the rotating takes place in front of the X-ray source at a constant rotation speed during irradiation, where the rotation means has means for receiving the products (Figs.4 and 5), and

d) the apparatus is characterized in that the apparatus does not have a collimator and the means for receiving the products are adapted to receive products loaded thereon as a stack the size of which is variable depending on the density of the products (col.4, lines 9-25).

With respect to claim 2, the rotation speed is held constant (col.4, lines 52-55).

With respect to claims 3 and 28-30, the rotation speed is held constant and is based upon predefined parameters (col.4, lines 52-55).

With respect to claims 4, 5 and 17-19, the products are carried on pallets, where the stack is formed by at least two, or at least four, contiguous pallets (col.4, lines 22-25).

With respect to claims 6 and 20, the pallets in the stack are arranged in a plane perpendicular to the rotation axis of the rotation means (Fig.5).

With respect to claims 9 and 23, the at least four product pallets are rectangular with their corners contacting each other (Fig.5; col.4, lines 22-25).

With respect to claims 15 and 31, the irradiation of products is performed by irradiating batches of products having similar densities (col.4, lines 8-21).

With respect to claim 25, the products are under bulk form or small parcels (mail).

With respect to claim 27, the rotation means has a turntable 15.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claims 16-20 and 25-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Hansen (US 6,763,085 B2).

Regarding claim 16, Hansen discloses an apparatus for irradiating products (Figs.1 and 6), including:

- a) an X-ray source 26 for irradiating products 30 from a lateral side with a beam 28 directed along a first direction substantially perpendicular to the lateral side, and scanned along a second direction substantially perpendicular to the first direction (col.7, lines 47-49),
- b) an irradiation chamber (Fig.1) having rotation means 15 for rotating the products around a rotation axis 32 parallel to the second direction (col.7, lines 33-41),
- c) rotating the product at a constant speed during irradiation, further having receiving means 15 for receiving the products, and where

Art Unit: 2882

d) the apparatus does not have a collimator, and the means for receiving is adapted to receive products as a stack.

The examiner notes that the limitation of “the size of [the stack] is variable depending upon the density of said products” carries no patentable weight. The limitation does not impose any additional structural limitation upon the claimed apparatus and therefore does not distinguish the structure of the claimed apparatus over the prior art of record. Furthermore, the apparatus of Hansen is “adapted to” receive stacks of products of varying sizes, see at least col.4, lines 6-35.

With respect to claim 17, the products are carried on pallets (food in plates, small crates, etc., col.4, lines 45-50).

With respect to claims 18-20, the apparatus of Hansen can receive products in a variety of configurations.

With respect to claim 25, the products can be received in bulk form or in small parcels (col.4, lines 45-50).

With respect to claim 26, the product can be received in a cylindrical container (Fig.6).

With respect to claim 27, the means for receiving includes a turntable 15.

Art Unit: 2882

With respect to claims 28-30, a controlling means (instrument panel, Fig.1) controls the constant rotation of the turntable based upon predetermined parameters.

With respect to claim 31, Hansen further teaches that irradiation of products can take place in batches of products having similar densities (col.2, lines 5-15; col.4, lines 45-50).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 8, 11-14, 21, 22 and 26 are rejected under 35 U.S.C. 103(a) as being obvious over Jongen in view of Tetzlaff (US 4,066,907).

With respect to claims 7, 8, 21 and 22, Jongen further discloses rectangular/square pallets stacked in a contiguous manner.

Further with respect to claims 7, 8, 21 and 22, and with respect to claim 13, Jongen does not specifically disclose that the products should be arranged such that a central empty column/square should be left, being located at the center of the axis of rotation of the rotation means.

Art Unit: 2882

Tetzlaff specifically teaches that the utilization of the radiation can be improved by disposing irradiated goods such that a cavity remains around the axis of rotation of the pallet (col.3, lines 15-19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for Jongen to leave a central empty column/square at the point of rotation of the rotating means as suggested by Tetzlaff in order to improve the utilization of the available radiation beam.

With respect to claim 11, Jongen shows that the products are under bulk form or small parcels (mail).

With further respect to claim 11, and with respect to claim 26, Jongen does not specifically disclose that the product stack is maintained in at least one cylindrical container.

Tetzlaff specifically teaches the practice of using cylindrical containers in order to more perfectly utilize the radiation and reducing the overdose factor (improving the DUR) (col.3, lines 10-13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for Jongen to use cylindrical containers as taught by Tetzlaff in order to improve radiation use efficiency and improving the DUR.

With respect to claim 12, Jongen further teaches that it is optimal to fill the container as much as possible (col.4, lines 26-29).

With respect to claim 14, Jongen further teaches that it is important to have a container of the optimal size (col.4, lines 26-29).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Allowable Subject Matter

Claims 10 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record neither teaches nor reasonably suggests the additional limitation of arranging the contact point of four corners of rectangular or square product pallets at the center of rotation of the rotation means, as required by the combination as claimed in each of claims 10 and 24.

Response to Arguments

Applicant's arguments with respect to claims 1 and 16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Koenck (US 6,931,095 B1) teaches a similar irradiation device except that the direction of rotation of the product pallet is perpendicular, rather than parallel, to the scanning direction of the X-ray beam source; further, Koenck does not determine the product stack size as on the basis of the density of the material. Hansen (US 6,763,085 B2) teaches a similar apparatus except that the density of the material is not taken into account when determining the size of the product stack to be irradiated.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2882

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas R. Artman whose telephone number is (571) 272-2485. The examiner can normally be reached on 9am - 5:30pm Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2882

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Thomas R. Artman
Patent Examiner

Handwritten signature of Thomas R. Artman, dated 6/26/06.Handwritten signature of Edward J. Glick.

EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER